CLAIMS

What is claimed is:

1 1. A method for dynamic timeout comprising machine-implemented steps of:

2   receiving a request from a requestor at a server or a process communicatively coupled

3   thereto;

4   determining whether an interim message should be sent to the requestor; and

5   if the interim message should be sent to the requestor, sending to the requestor the

6   interim message referring to the request, wherein the interim message contains

7   one or more response-related items.

1 2. The method of Claim 1, wherein the one or more response-related items comprise one

2 or more of:

3   time estimate related to sending a response to the request;

4   time estimate related to sending a subsequent interim message related to the request;

5   an indication that the request has been received by the server or the process

6   communicatively coupled thereto, and an indication that describing whether

7   the request is well formatted;

8   an indication of the state that the server is in;

9   if processing the request involves multiple steps, an indication of the which steps of

10   the multiple steps have already been performed; and

11   if processing the request involves sending a second request to an external resource

12   server, an indication of the status of the second request.

1 3. The method of Claim 1, wherein the step of determining whether the interim message

2 should be sent to the requestor comprises determining whether one or more of the following

3 has occurred:

4   the request has been received;

5   the request has been successfully parsed;

6   the server has begun processing the request;

7   CPU usage of the server meets certain criteria;

8   memory usage of the server meets certain criteria; and

9   a queue of messages awaiting response by the server meets certain criteria.

1   4.   The method of Claim 1, wherein the step of determining whether the interim message

2   should be sent to the requestor comprises determining whether a second request has been sent

3   to an external resource server.

1   5.   The method of Claim 1, wherein the step of determining whether the interim message

2   should be sent to the requestor comprises determining whether a second response to a second

3   request has been received at the server from an external resource server.

1   6.   A method for dynamic timeout comprising machine-implemented steps of:

2   sending a request to a server;

3   receiving an interim message from the server, wherein the interim message contains

4   one or more response-related items; and

5   determining whether to change a timeout value based on the one or more response-

6   related items in the interim message.

1   7.   The method of Claim 6, wherein the one or more response-related items comprise one

2   or more of:

3   time estimate related to sending a response to the request;

4   time estimate related to sending a subsequent interim message related to the request;

5   an indication that the request has been received by the server or a process

6   communicatively coupled thereto, and an indication describing whether the

7   request is well formatted;

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8   an indication of the state that the server is in;

9   if processing the request involves multiple steps, an indication of the which steps of

10   the multiple steps have already been performed; and

11   if processing the request involves sending a second request to an external resource

12   server, an indication of the status of the second request.

1   8.   A machine-readable medium carrying one or more sequences of instructions for

2   dynamic timeout, which instructions, when executed by one or more processors, cause the

3   one or more processors to carry out the steps of:

4   receiving a request from a requestor at a server or a process communicatively coupled

5   thereto;

6   determining whether an interim message should be sent to the requestor; and

7   if the interim message should be sent to the requestor, sending to the requestor the

8   interim message referring to the request, wherein the interim message contains

9   one or more response-related items.

1   9.   The machine-readable medium as recited in Claim 8, wherein the instructions, when

2   executed by one or more processors, cause the one or more processors to act as an AAA

3   server and wherein the requestor is an AAA client, the request is a RADIUS Access Request

4   message, and the interim message is a RADIUS Access Challenge message that contains the

5   one or more response-related items in a Vendor Specific Attribute in the RADIUS Access

6   Challenge message.

1   10.   The machine-readable medium as recited in Claim 8, wherein the instructions, when

2   executed by one or more processors, cause the one or more processors to act as an AAA

3   server and wherein the requestor is an EAP supplicant, the request is an EAP Request, and

4   the interim message is an EAP Notification message that contains the one or more response-

5   related items.

1   11.   A machine-readable medium carrying one or more sequences of instructions for

2   dynamic timeout, which instructions, when executed by one or more processors, cause the

3   one or more processors to carry out the steps of:

4   sending a request to a server;

5   receiving an interim message from the server, wherein the interim message contains

6   one or more response-related items; and

7   determining whether to change a timeout value based on the one or more response-

8   related items in the interim message.

1   12.   The machine-readable medium as recited in Claim 11, wherein the instructions, when

2   executed by the one or more processors, cause the one or more processors to act as an AAA

3   client and wherein the server is an AAA server, the request is a RADIUS Access Request

4   message, and the interim message is a RADIUS Access Challenge message that contains one

5   or more response-related items in a Vendor Specific Attribute in the RADIUS Access

6   Challenge message.

1   13.   The machine-readable medium as recited in Claim 11, wherein the instructions, when

2   executed by the one or more processors, cause the one or more processors to act as an EAP

3   supplicant and the server is an AAA server, the request is an EAP Request, and the interim

4   message is an EAP Notification message that contains one or more response-related items.

1   14.   An apparatus for dynamic timeout, comprising:

2   a network interface that is coupled to a data network for receiving one or more packet

3   flows therefrom;

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4   a processor;

5   one or more stored sequences of instructions which, when executed by the processor,

6   cause the processor to carry out the steps of:

7   receiving a request from a requestor at a server or the process communicatively

8   coupled thereto;

9   determining whether an interim message should be sent to the requestor; and

10   if the interim message should be sent to the requestor, sending to the requestor the

11   interim message referring to the request, wherein the interim message contains

12   one or more response-related items.

1   15.   The apparatus of Claim 14, wherein the apparatus is an AAA server and wherein the

2   requestor is an AAA client, the request is a RADIUS Access Request message, and the

3   interim message is a RADIUS Access Challenge message that contains the one or more

4   response-related items in a Vendor Specific Attribute in the RADIUS Access Challenge

5   message.

1   16.   The apparatus of Claim 14, wherein the apparatus is an AAA server and wherein the

2   requestor is an EAP supplicant, the request is an EAP Request, and the interim message is an

3   EAP Notification message that contains the one or more response-related items.

1   17.   An apparatus for dynamic timeout, comprising:

2   a network interface that is coupled to a data network for receiving one or more packet

3   flows therefrom;

4   a processor;

5   one or more stored sequences of instructions which, when executed by the processor,

6   cause the processor to carry out the steps of:

7   sending a request to a server;

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8   receiving an interim message from the server, wherein the interim message contains
9   one or more response-related items; and
10   determining whether to change a timeout value based on the one or more response-
11   related items in the interim message.

1   18.   The apparatus of Claim 17, wherein the apparatus is an AAA client and wherein the

2   server is an AAA server, the request is a RADIUS Access Request message, and the interim

3   message is a RADIUS Access Challenge message that contains one or more response-related

4   items in a Vendor Specific Attribute in the RADIUS Access Challenge message.

1   19.   The apparatus of Claim 17, wherein the apparatus is an EAP supplicant and wherein

2   the server is an AAA server, the request is an EAP Request, and the interim message is an

3   EAP Notification message that contains one or more response-related items.

1   20.   An apparatus for dynamic timeout, comprising:

2   means for receiving a request from a requestor at a server or the process
3   communicatively coupled thereto;
4   means for determining whether an interim message should be sent to the requestor;
5   and
6   means for sending to the requestor, if the interim message should be sent to the
7   requestor, the interim message referring to the request, wherein the interim
8   message contains one or more response-related items.

1   21.   The apparatus of Claim 20, wherein the means for performing the steps is an AAA

2   server and wherein the requestor is an AAA client, the request is a RADIUS Access Request

3   message, and the interim message is a RADIUS Access Challenge message that contains the

4   one or more response-related items in a Vendor Specific Attribute in the RADIUS Access

5   Challenge message.

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1   22.   The apparatus of Claim 20, wherein the means for performing the steps is an AAA

2   server and wherein the requestor is an EAP supplicant, the request is an EAP Request, and

3   the interim message is an EAP Notification message that contains the one or more response-

4   related items.

1   23.   An apparatus for dynamic timeout, comprising:

2   means for sending a request to a server;

3   means for receiving an interim message from the server, wherein the interim message

4   contains one or more response-related items; and

5   means for determining whether to change a timeout value based on the one or more

6   response-related items in the interim message.

1   24.   The apparatus of Claim 23, wherein the means for performing the steps is an AAA

2   client and wherein the server is an AAA server, the request is a RADIUS Access Request

3   message, and the interim message is a RADIUS Access Challenge message that contains one

4   or more response-related items in a Vendor Specific Attribute in the RADIUS Access

5   Challenge message.

1   25.   The apparatus of Claim 23, wherein the means for performing the steps is an AAA

2   client and wherein the server is an AAA server, the request is an EAP Request, and the

3   interim message is an EAP Notification message that contains one or more response-related

4   items.

1   26.   A method for dynamic timeout for an AAA server comprising machine-implemented

2   steps of:

3   receiving a request from a requestor at an AAA server or a process communicatively

4   coupled thereto;

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5   determining whether an interim message should be sent to the requestor; and

6   if the interim message should be sent to the requestor, sending to the requestor the

7   interim message referring to the request, wherein the interim message contains

8   one or more response-related items.

1   27.   The method of Claim 26, wherein the requestor is an AAA client, the request is a

2   RADIUS Access Request message, and the interim message is a RADIUS Access Challenge

3   message that contains the one or more response-related items in a Vendor Specific Attribute

4   in the RADIUS Access Challenge message.

1   28.   The method of Claim 26, wherein the requestor is an EAP supplicant, the request is

2   an EAP Request, and the interim message is an EAP Notification message that contains the

3   one or more response-related items.

1   29.   A method for dynamic timeout comprising machine-implemented steps of:

2   sending a request to an AAA server;

3   receiving an interim message from the AAA server, wherein the interim message

4   contains one or more response-related items; and

5   determining whether to change a timeout value based on the one or more response-

6   related items in the interim message.

1   30.   The method of Claim 29, wherein the steps are performed by an AAA client, the

2   request is a RADIUS Access Request message, and the interim message is a RADIUS

3   Access Challenge message that contains one or more response-related items in a Vendor

4   Specific Attribute in the RADIUS Access Challenge message.

1   31.   The method of Claim 29, wherein the steps are performed by an EAP supplicant, the

2   request is an EAP Request, and the interim message is an EAP Notification message that

3   contains one or more response-related items.

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